



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,905	05/05/2005	Shinya Fujibayashi	62272 (49227)	1714
21874	7590	03/21/2007	EXAMINER	
EDWARDS & ANGELL, LLP			ZIMMER, MARC S	
P.O. BOX 55874			ART UNIT	PAPER NUMBER
BOSTON, MA 02205			1712	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	03/21/2007		PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/510,905	FUJIBAYASHI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marc S. Zimmer	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) \_\_\_\_ is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) \_\_\_\_ is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | Paper No(s)/Mail Date: ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: ____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: ____                           |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-34 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for some limited subset of all polyurethane resins that exhibit the claimed starting softening temperature and difference between softening starting temperature and softening ending temperature, does not reasonably provide enablement for the other such materials not expressly disclosed by Applicants Specification. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

When addressing the matter of whether or not undue experimentation is necessary to practice the invention commensurate in scope with the claims, there are several factors that must be considered, said factors being outlined in MPEP 2164.01(a). The Examiner acknowledges that many of these factors don't support a holding that undue experimentation is required. For instance, the Applicant has provided numerous working Examples. Nevertheless, the single biggest consideration is always the level of predictability of the art. In the Examiner's estimation, there is sufficient unpredictability in trying to identify what combinations of diisocyanate, diol/polyol, and diamine will provide a polyurethane featuring the properties claimed that the practitioner would have no choice but to synthesize each polymer individually and measure its

Art Unit: 1712

properties. In the Examiner's estimation, this represents an undue level of experimentation.

For Example, Applicant summarizes two production examples ( 10 and comparative 3) in Table 2 based on the utilization Up1, and Up8 that are derived from all the same materials, and in essentially the same amounts. The only difference is the employment of different ketimines and even those are added to the PU in similar quantities yet the starting softening temperature of the product described in the comparative Example is almost half that of the product of Production Example 2. Although it is appreciated that the skilled artisan might expect some change in the starting softening temperature and perhaps even be able to predict a raising or lowering based relative to another PU based on the structural differences of the ketimine, there simply would be no way that the skilled artisan could predict such a lowering of the softening temperature to the extent that the product is not embraced by Applicant's claims, let alone the dramatic lowering observed.

As another measure of the degree of unpredictability, JP 10-259369 describes a polyurethane made from the same materials as are advocated by the present Specification yet the starting softening temperature reported therein is outside the range mandated by the present claims. Furthermore, it does not appear that the data offered in Applicant's Specification is extensive enough so as to provide any discernable correlations between structure and properties that would enable the skilled artisan to make an educated guess as to whether or not the claimed properties would be inherently satisfied for a particular combination of materials furnished in particular

Art Unit: 1712

amounts. In view of these observations, it seems that one of ordinary skill would have to engage in an undue amount of experimentation to ascertain what is the full scope of the claimed invention.

Claim 2 is substantially more limiting than is claim 1 and it may be the case that all polymers adhering to each of the limitations of claim 2 will inherently satisfy the property limitations of claim 1. If this is the true, Applicant is strongly encouraged to incorporate the limitations of claim 2 into claim 1 to overcome this rejection.

The International Search Authority has asserted that the documents labeled as "X" references at least render obvious most of the claims. The Examiner has reviewed the rationale given but does not agree that those documents represent a foundation for rejection in no small part due to the considerations mentioned *supra*. While the Examiner concedes that their disclosures are broad enough that there are likely some embodiments of the polymer embraced by the teachings therein that would satisfy both of the property limitations recited in claim 1, these embodiments are not obvious as they are not fairly suggested. That is to say, those disclosures embrace a multitude of polymers some of which possibly satisfy the claimed properties, many of which will not but those that do are not emphasized in any way.

The Examiner is submitting these references for a full written translation and will consider further their relevance to the claims upon receipt of Applicant's response to the matters raised herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 17, 2007



MARCS ZIMMER  
PRIMARY EXAMINER